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(54) Title: MULTIPLEX DETECTION PROBES

(57) **Abstract:** The present invention comprises detection probes utilizing vesicles or soluble bodies to retain multiple mass tag molecules. The detection probes may be used to simultaneously assay a plurality of different biological samples, each comprising a plurality of analytes, by immobilizing the analytes from each of the samples on a surface incubating the surface with a set of the detection probes, each having mass tag molecules with different masses, removing the unbound detection probe, collecting the first and second mass tag molecules from the bound detection probe, and quantifying the first and second mass tag molecules collected.